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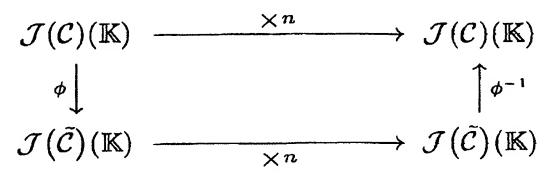
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(54) Title: METHOD FOR DEFENCE AGAINST DIFFERENTIAL POWER ANALYSIS ATTACKS



(57) Abstract: In order to refine a method for defence against at least one attack made by means of differential power analysis on at least one hyperelliptic cryptosystem, in particular at least one hyperelliptic public key cryptosystem, which is given by at least one hyperelliptic curve (C) of any genus (g) over a finite field (K) in a first group, where the hyperelliptic curve (C) is given by at least one co-efficient, so that an essential contribution can be made towards an efficient and secure implementation of the hyperelliptic cryptosystem, it is proposed that the hyperelliptic curve (C) and/or at least one element of the first group, in particular at least one in particular reduced divisor and/or at least one intermediate result of a scalar multiplication, is randomised.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G06F7/72 According to International Patent Classification (IPC) or to both national classification and IPC **B. FIELDS SEARCHED** Minimum documentation searched (classification system followed by classification symbols) G06F HO4L IPC 7 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, INSPEC C. DOCUMENTS CONSIDERED TO BE RELEVANT Relevant to claim No. Category ° Citation of document, with indication, where appropriate, of the relevant passages JOYE M ET AL: "PROTECTIONS AGAINST 1,3,4, X DIFFERENTIAL ANALYSIS FOR ELLIPTIC CURVE CRYTOGRAPHY - AN ALGEBRAIC APPROACH -" CRYPTOGRAPHIC HARDWARE AND EMBEDDED SYSTEMS. 3RD INTERNATIONAL WORKSHOP, CHES 2001, PARIS, FRANCCE, MAY 14 - 16, 2001 PROCEEDINGS, LECTURE NOTES IN COMPUTER SCIENCE, BERLIN: SPRINGER, DE, vol. VOL. 2162, 14 May 2001 (2001-05-14), pages 377-390, XP008002642 ISBN: 3-540-42521-7 cited in the application section 4 Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: *T* later document published after the international filing date or priority date and not in conflict with the application but 'A' document defining the general state of the art which is not considered to be of particular relevance cited to understand the principle or theory underlying the Invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled other means in the art. document published prior to the international filing date but later than the priority date claimed *&* document member of the same patent family Date of the actual completion of the International search Date of mailing of the international search report 21/12/2004 23 November 2004 **Authorized officer** Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 Verhoof, P

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